

REMARKS

The Examiner is thanked for the thorough review and consideration of the present application. The Non-Final Office Action dated July 26, 2004 has been received and its content carefully reviewed. Applicants respectfully request reconsideration and withdrawal of the rejections based upon the following remarks.

In the Office Action, claims 1, 7-16 and 24-29 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants' Prior Art (APA) in view of U.S. Patent No. 6,507,382, issued to Sakamoto et al. (hereafter "Sakamoto") and U.S. Patent No. 5,581,382, issued to Kim. Applicants traverse the rejection because neither APA, Sakamoto nor Kim, analyzed alone or in any combination, teaches or suggests the combined features recited in the claims of the present application. For example, APA, Sakamoto and Kim fail to teach or suggest an in-plane switching liquid crystal display device that includes, among other features, "a plurality of common electrodes in contact with the first passivation layer; a second passivation layer on the first passivation layer, wherein the second passivation layer is an inorganic material" as recited in independent claim 1; and a method of fabricating an array substrate for an in-plane switching liquid crystal device that includes: "forming a plurality of common electrodes in contact with the first passivation layer; forming a second passivation layer on the first passivation layer, wherein the second passivation layer is an inorganic material" as recited in independent claim 16.

The Office Action concedes "APA does not explicitly disclose a common electrode 1) in contact with the first passivation layer; a second passivation layer on the first passivation layer; a pixel electrode on the second passivation layer, and 2) wherein the second passivation layer is an inorganic material." To compensate for the deficiencies of APA, the Office Action relies upon the teachings of Sakamoto (especially embodiment 2 in Drawings 3(a) and 3(b)) and Kim. Based upon the teachings of Sakamoto and Kim, the Office Action alleges it would be obvious to modify APA to obtain the features recited in the present application. Applicants respectfully disagree.

The Sakamoto "invention provides a liquid-crystal display where both pixel electrode 14 and common electrode 3 for controlling a liquid-crystal layer 40 are disposed above a color filter 10 covered with a shield electrode 20" (Abstract). And, Kim teaches "a liquid crystal display device structure constructed to prevent an LCD device provided therein from being damaged due

to moisture penetration” (Col. 1, lines 11-13). However, Applicants respectfully submit neither Sakamoto nor Kim remedy the deficiencies of APA such that one of ordinary skill in the art would not be motivated by the teachings of Sakamoto and Kim to modify APA to obtain a device and method having the combined features recited in independent claims 1 and 16 of the present application.

Because no combination of APA, Sakamoto and Kim teaches or suggests at least the above discussed features of claims 1 and 16, Applicants respectfully submit claim 1 and its dependent claims 7-15, and claim 16 and its dependent claims 24-29 are allowable over any combination of APA, Sakamoto and Kim. Reconsideration and withdrawal of the rejection are requested.

In the Office Action, claims 2-3 and 17-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over APA in view of Sakamoto and Kim and further in view of U.S. Patent No. 6,356,328 et al. (hereafter “Shin”). Claims 4 and 23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over APA in view of Sakamoto and Kim, and further in view of U.S. Patent No. 6,163,355, issued to Chang et al. (hereafter “Chang”). Claims 5-6 and 21-22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over APA in view of Sakamoto and Kim, and further in view of U.S. Patent No. 6,414,729, issued to Akiyama et al. (hereafter “Akiyama”). Applicants traverse the rejections because no combination of APA, Sakamoto, Kim, Shin, Chang nor Akiyama teaches or suggests the combined features recited in the claims of the present application. Specifically, no combination of APA, Sakamoto, Kim, Shin, Chang nor Akiyama teaches or suggests “a plurality of common electrodes in contact with the first passivation layer; a second passivation layer on the first passivation layer, wherein the second passivation layer is an inorganic material” as recited in independent claim 1; and “forming a plurality of common electrodes in contact with the first passivation layer; forming a second passivation layer on the first passivation layer, wherein the second passivation layer is an inorganic material” as recited in independent claim 16.

As discussed above, Sakamoto and Kim fail to remedy the deficient teachings of APA with respect to independent claims 1 and 16. Applicants respectfully submit Shin, Chang and Akiyama also fail to remedy the deficiencies of APA. More particularly, no combination of Shin, Chang and Akiyama, when used to modify APA, Sakamoto and Kim as suggested in the Office Action, would provide a device and method of manufacturing an array substrate that

would provide the combined features recited in independent claims 1 and 16. By virtue of their dependence from independent claims 1 and 16, rejected claims 2-6 and 17-23 also contain the allowable features recited in respective claim 1 and 16. As such, claim 1 and its dependent claims 2-6, and claim 16 and its dependent claims 17-23 are allowable over any combination of APA, Sakamoto, Kim, Shin, Chang and Akiyama. Reconsideration and withdrawal of the rejection are requested.

In the Office Action, claims 30 and 31 are rejected under 35 U.S.C. § 103(a) as being unpatentable over APA in view of Sakamoto and Kim and further in view of U.S. Patent No. 6,300,995, issued to Wakagi et al. (hereafter "Wakagi"). Claims 32 and 33 are rejected under 35 U.S.C. § 103(a) as being unpatentable over APA in view of Sakamoto, Kim and Wakagi, and further in view of Shin. Claim 34 is rejected under 35 U.S.C. § 103(a) as being unpatentable over APA in view of Sakamoto, Kim and Wakagi, and further in view of Chang. Claims 35 and 36 are rejected under 35 U.S.C. § 103(a) as being unpatentable over APA in view of Sakamoto, Kim and Wakagi, and further in view of Akiyama. Applicants respectfully traverse the rejections because no combination of APA, Sakamoto, Kim, Wakagi, Shin, Chang nor Akiyama teaches or suggests an in-plane switching liquid crystal display device that includes, among other features, "a plurality of common electrodes in contact with the second insulation layer, wherein the common electrodes contact the common line via the first contact holes; a third insulation layer on the common electrodes and the second insulation layer, wherein the third insulation layer is an inorganic material" as recited in independent claim 30.

Applicants kindly note the Office Action (see page 12, paragraph number 6) has incorrectly equated the first passivation layer and the second passivation layer of APA to the second insulation layer and third insulation layers recited in Applicants' claim 30. Applicants respectfully point out APA discloses a gate insulation layer 70 and a passivation layer 74; however APA does NOT disclose a third insulation layer as recited in claim 30.

Applicants further note that Wakagi fails to teach or suggest "a third insulation layer on the common electrodes and the second insulation layer, wherein the third insulation layer is an inorganic material; a second contact hole through the second and third insulation layers over a drain electrode of the thin film transistor" as recited in independent claim 30.

Also, Shin, Chang and Akiyama, like APA, Sakamoto, Kim and Wakagi, fail to teach or suggest "a third insulation layer on the common electrodes and the second insulation layer,

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wherein the third insulation layer is an inorganic material; a second contact hole through the second and third insulation layers over a drain electrode of the thin film transistor" as recited in independent claim 30. Because Shin, Chang, and Akiyama fail to teach or suggest at least these features of claim 30, no combination of the teachings of Shin, Chang and Akiyama to the device of APA, Sakamoto and Kim would provide a device and method having all the features recited claim 30. Accordingly, claim 30 and its dependent claims 31-36 are allowable over any combination of APA, Sakamoto, Kim, Shin, Chang and Akiyama. Reconsideration and withdrawal of the rejections are respectfully requested.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue. If the Examiner deems that a telephone conversation would further the prosecution of this application, the Examiner is invited to call the undersigned at (202) 496-7500.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

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wherein the third insulation layer is an inorganic material; a second contact hole through the second and third insulation layers over a drain electrode of the thin film transistor" as recited in independent claim 30. Because Shin, Chang, and Akiyama fail to teach or suggest at least these features of claim 30, no combination of the teachings of Shin, Chang and Akiyama to the device of APA, Sakamoto and Kim would provide a device and method having all the features recited claim 30. Accordingly, claim 30 and its dependent claims 31-36 are allowable over any combination of APA, Sakamoto, Kim, Shin, Chang and Akiyama. Reconsideration and withdrawal of the rejections are respectfully requested.

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